Bailey Bridge
Outline

History
Assembly
Impact on WWII
Versatility
Future
Questions
Problem
Donald Bailey
1901 - 1985

Education - Leys School, Cambridge, and Sheffield University (Doctorate of Engineering)
Career - Sheffield City Engineer Department, Experimental Bridging Establishment (1928), First Director of the Military Engineering Experimental Establishment
Knighted in 1946
Design employed prefabricated panels and parts
Can be carried by trucks and assembled using manpower alone
Erection using simple tools (ropes, pulleys, jacks and hammers)
Can be moved, rebuilt, or replaced in several hours, even under enemy fire
Incredible Versatility
How it works

1-Recon Site
2-Determine construction requirements
3-Build it
Lay Ho Heave

Figure 6.23 Pushing bridge over gap

Figure 6.22 Position of rollers
Diagram of Double Truss - Single Storey (DS)
MULTIPLE CONFIGURATIONS

Identical panels can be mated and stacked to increase span or load capacity or both.
How a bridge won WWII

Without the Bailey Bridge, we should not have won the war. It was the best thing in that line that we ever had.”
Field Marshal Lord Bernard L. Montgomery

“...one of the three pieces of equipment that most contributed to our victory in Festung Europa.”
General Dwight Eisenhower
BAILEY BRIDGES N.W. EUROPE

BRIDGES ERECTED 6 JUNE 44 TO 8 MAY 45
" " 8 MAY 45 TO 8 SEPT. 45

BRIDGEHEAD & FRANCE 274
BELGIUM 183
HOLLAND 545
GERMANY 443
Versatility of the Bailey
Post-War construction applications

Bailey Bridge components were sold as surplus after World War II

Used here in erecting a concrete gravity dam in Quebec
Bailey suspension spans were widely used in Asia during and after the Second World War because of their wide availability and low cost.
Bailey Bridge panels being used as roof trusses for a factory building in South Africa during the 1950s
What of the name Bailey now?

Donald Bailey lived his life in relative obscurity.

During the 1960s Thomas Storey Engineers Ltd of London marketed Bailey Bridges under the name Bailey-Uniflote all over the world

Today, another English firm, Mabey Johnson, fabricates the same style component steel segmented truss bridges using higher strength, lower weight structural steel